

## THE LIFE HISTORY AND DISTRIBUTION OF *ALLORA DOLESCHALLII DOLESCHALLII* (FELDER) (LEPIDOPTERA: HESPERIIDAE) IN NORTHERN QUEENSLAND

S.J. Johnson and W.M. Doherty

Oonoonba Veterinary Laboratory, P.O. Box 1085, Townsville, Qld, 4810

### Abstract

The life history of *Allora doleschallii doleschallii* is recorded and illustrated and notes made on its distribution in northern Queensland. The food plant is *Rhyssopteria timorensis* Blume.

### Introduction

*Allora doleschallii doleschallii* and *A. major* (Rothschild) are the only two members of the genus occurring in Australia. *A. doleschallii* has previously been encountered uncommonly from a few localities in Torres Strait through to Mackay, Queensland (Common and Waterhouse 1981).

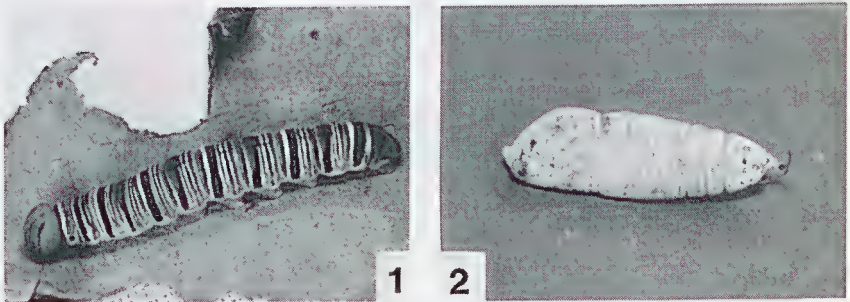
Collecting in recent years has revealed several additional localities and more recently we followed the life history of this species, the early stages of which were previously undescribed.

### Life History

Food plant. *Rhyssopteria timorensis* (Malpigiaceae).

Egg. White, hemispherical, 1.0 mm wide at base and 0.8 mm high with 16 vertical ribs. Surface between ribs covered in short fine tubercles arranged in irregular vertical chords ventrally and in horizontal lines dorsally.

Larva. 1st - 4th instar: Head orange-yellow, median and adfrontal sutures black. An oblique black line from occipital region to genal margin. Body yellow. Prothorax pale yellow, broadly edged dark brown anteriorly and narrowly edged reddish brown posteriorly. Anterior spiracle black. Thoracic and abdominal segments each with a broad central dark brown band edged white and with a small red patch ventrolaterally. Central band continuous across thoracic segments and abdominal segments 2, 4, 6, 8 and interrupted



Figs. 1 and 2. *Allora doleschallii doleschallii*: (1), final instar larva; (2) pupa.

dorsally on abdominal segments 1, 3, 5, 7. Dorsal heart edged brown. Anal plate with brown dorsal stripe and oblique lateral stripes. Final instar (Fig. 1): Length 30-36 mm. Head orange with similar pattern to earlier instars but black lines less distinct and occasionally interrupted. Body yellow. Prothorax edged pinkish anteriorly and posteriorly with a fine black line. Anterior spiracles black. Mesothorax with a broad central black band and metathorax with a broad reddish brown band. Abdominal segments 1, 3, 5, 7 with a central broad crescentic orange band. Ventrolaterally, band edged white anteriorly and reddish posteriorly. Abdominal segments 2, 4, 6, 8 with a narrow red central band. Anal plate translucent white. Spiracles black, a faint white line ventrolaterally and dorsal heart faintly edged reddish-brown.

Pupa (Fig. 2). White, 19 - 23 mm long. Pupal cap with lateral angulate protrusions over eyes and centrally bearing an anterodorsally directed blunt rod-shaped projection. Anterior spiracles black. Mesothorax with scattered black spots. Abdominal segments 2 - 8 each with an irregular black central transverse band and segments 4 - 8 with lateral black spots slightly larger on posterior segments. Pupal duration 19 - 23 days.

### Notes

Eggs are laid singly on the uppersides of leaves of the host plant. First to fourth instar larvae cut opposing semicircular pieces of leaf which they erect into characteristic vertical bivalve-shaped shelters. Successive instars build progressively larger shelters which are sealed along the outer margin except for a small entrance hole at the end of the hinge facing the centre of the leaf. First instar larvae feed on the epidermis of the leaf inside the shelter and on the leaf surface adjacent to the entrance hole. Later instars also feed on the walls of the shelters and older shelters develop a characteristic perforated appearance. Up to three successive shelters commonly occur on a single leaf. Final instar larvae join adjacent leaves of the hostplant or of plants supporting the host vine or enter curled dead leaves caught amongst the twining stems of the plant. Pupation occurs in the last larval shelter.

In recent years we have taken *A. d. doleschallii* on Thursday Island, Station Creek and Seary Creek in central Cape York Peninsula, Packers Creek near Portland Roads and on Mt White near Coen. At these locations *A. d. doleschallii* was taken flying in depauperate rainforest, the preferred habitat of *R. timorensis* (Jones and Gray 1988). If *A. d. doleschallii* is restricted to areas of depauperate rainforest then it is unlikely to occur along the Claudie River valley where *A. major* occurs.

The brightly coloured larvae and distinctive larval shelters should aid in the recognition of the immature stages of *A. d. doleschallii* in the field.

### References

- COMMON, I.F.B. and WATERHOUSE, D.F. 1981. *Butterflies of Australia*. Pp. xiv + 682. Angus and Robertson, Sydney.
- JONES, D.L. and GRAY, B. 1988. *Climbing Plants in Australia*. Pp. 392. A. Reed, Sydney.